Providing Independent Reading Comprehension Strategy Practice through Workstations

Chase Young
Texas A&M University-Corpus Christi

Abstract
This article describes an action research project undertaken by a second grade teacher looking for research-based ways to increase his students' reading comprehension. He designed fifteen comprehension workstations and evaluated their effect on his second graders' reading comprehension scores as measured by district Imagination Station assessments. Results from the comprehension subtests indicate more than the expected one-year's growth in comprehension. The descriptions of each workstation and the implementation are shared as well as growth in comprehension.

At the beginning of the 21st Century, the National Reading Panel (NRP) indicated that reading comprehension strategy instruction is an effective way to teach young readers (National Institute of Child Health and Human Development [NICHHD], 2000). The report had a large impact on policy, research, and practice (Allington, 2002), but teaching reading comprehension through direct instruction was hardly a new concept (Becker, 1977; Pearson & Dole, 1987). Nonetheless, the report incited an influx in basal programs that advertised the direct instruction of comprehension strategies. Schools across the nation adopted these "research-based" programs, and quickly implemented them and awaited positive results. However, educators who understand the critical aspects of effective reading instruction might question the need for packaged programs as well as their comprehensiveness.

Dewitz, Jones, and Leahy (2009) analyzed five core reading programs. The researchers agreed that each were "research-based" because the programs provided lesson plans that included proven strategies to increased comprehension. However, although the programs included the strategies, the methods for teaching them were deemed inadequate in every program reviewed. According to the analysis, the lessons skipped from teaching to assessment, leaving out several integral steps in the teaching process.

Missing Steps in Published Programs
Researchers (Duffy & Roehler, 1982; Duke & Pearson, 2002) suggested that reading comprehension instruction should begin with direct explanation. That is, every strategy should be explained in child-friendly language. Explanations may seem like a natural way to begin the "teaching phase," however this phase was absent in the reading programs reviewed (Dewitz, Jones, Leahy, 2007; Durkin, 1981).

For many years, researchers (Pearson & Gallagher, 1983) recommended extensive modeling of the strategy in order to provide a lens for students to view the complex idiosyncrasies present in the mind of a proficient reader. It was imperative that

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students see the process before trying to emulate it. Effective teachers used think-alouds, read alouds, and other strategies to prepare students for the next step (Paris, Cross, & Lipson, 1984), guided practice.

Guided practice was also lacking in the five major reading programs (Dewitz, Jones, & Leahy, 2009), even though Pearson and Gallagher (1983) previously argued that guided practice was an integral stage in the learning/teaching process. During guided practice, students attempted to use reading comprehension strategies on their own, but the teacher was there ready to provide guidance as needed. The teacher provided support for the students, answered questions, posed guiding questions, and helped clarify misconceptions. After sufficient explanation, modeling, guided practice, and reteaching when necessary, the students moved into the final phase, independent practice.

Importance of Independent Practice

Students needed independent practice of reading comprehension strategies (Gropper, 1983; Smith & Rothkopf, 1984). The students required time to practice the newly learned strategies in order to internalize them. Dewitz, Jones, & Leahy (2009) argued that basal programs did not provide ample time for independent practice, however finding time for independent practice during the instructional day can be difficult.

Dewitz, Jones, and Leahy (2009) also mentioned that the programs covered a wide range of strategies, but did not go very deep, perhaps meaning that many strategies are taught, but not to the degree of sophistication necessary for students to internalize and strategically use them while reading. In addition to the need for a thorough teaching sequence, the "spacing and timing" of the comprehension instruction was important to consider. Dempster (1987) discussed a concept called "distributed practice." This meant that instruction should be sustained for adequate time and the strategy should be repeatedly practiced on a spiraling rotation. Several researchers investigated the time needed for different types of strategy instruction, but the results varied greatly, ranging from a matter of days to a number of months (Buss, Ratliff, & Irion, 1985; Hanson & Pearson, 1983; Taylor & Beach, 1984). Regardless of the exact time needed, all the research indicated that students needed at least some time to practice. So, then, where do educators find the time to allow for repeated independent practice of reading comprehension strategies? The answer for me was during "center time"—a time I dubbed, "comprehension workstations."

Implementing Comprehension Workstations

I spent 15 weeks teaching my students different strategies and slowly integrated the strategies into our daily workstations. As you know, managing workstations is no easy task. So, I made sure that the students understood the material, could work collaboratively, and could access exemplars to complete the stations successfully. I trained students to choose books on their independent reading level from various sources, such as our classroom library, the school library, or from home. Most of the time there were no restrictions on book-types other than reading level, but as you will see, some workstations required fiction or nonfiction books. Of course, you can use any method for selecting text that works best for you and your students.

The Lessons

I developed minilessons for several different reading comprehension strategies. In an effort to make sure my stations were

research-based, I chose many of the strategies from the NRP report. There is no time to describe each lesson in detail, but I can provide a brief overview of the weekly format and the stations themselves. The format was based on the gradual release model (Pearson & Gallagher, 1983).

On the first day, I conducted a think-aloud to demonstrate the reading comprehension strategy upon which we were focused. On the next day, I engaged the students in an interactive read aloud—where I invited them to contribute verbally to the lesson. For example, if we were learning how to make good connections, I stopped several times throughout the book to listen to student responses and give feedback. The third day, I introduced the graphic organizer used to think through the comprehension strategy. We completed the graphic organizer together on chart paper and hung the final product on the wall. Subsequently, the students worked in groups to complete their own graphic organizers. On the fourth day, students worked in pairs, and on the fifth day the students completed the graphic organizer independently.

The Rotations

After several years of modifying the management of the comprehension workstations, I finally found a way that worked best for me. I randomly assigned students to a new pod (collection of desks that makes a table) each week. On Mondays, I shuffled and passed out notecards with a pod number written on a card. The students walked in, found their new pod assignment, and dragged their desk to form their new tables.

I loved this method for several reasons. First, the students had many opportunities to interact with everyone in the class. I know what you are thinking. What happens when two "difficult" or "hyper" students sit together? Well, it happens, and on several occasions it was more than two; four of my rambunctious boys shared the same pod. This leads into the second reason I loved the method—they learned to work with one another, regardless of "history." It was an expectation. And if not, I knew that next week they would be separated, and as I was a teacher of young children, I can handle anything for a week.

My favorite reason, however, was because the tables doubled as their workstation group. The groups were heterogeneous, random, and frequently changed. I am a firm believer in learning through social interaction, and thus I wanted to create as many opportunities for varying collaboration as possible.

I allocated 30 minutes to workstations, and each group completed one per day. The next section describes 15 workstations that I used throughout the year, so clearly the math does not add up for a weekly routine. I used the stations on a three-week routine. Thus, after three weeks, the students completed all fifteen stations. My goal was not to engage them in each station every day or even every week, but to spiral the strategy throughout the school year.

The Workstations

Summary – 1st Comprehension Strategy.

Students in the summary workstation chose a book, and wrote a summary. The teacher expected students to write summaries based on a constructed story arc (Figure 1). The story arc included characters, setting, conflict, rising action, climax, falling action, and the resolution. After the students finished reading the book and completed the story arc, they used the information to write a story summary. The National Reading Panel (NICHD, 2000) promoted this strategy as an important means for comprehension.

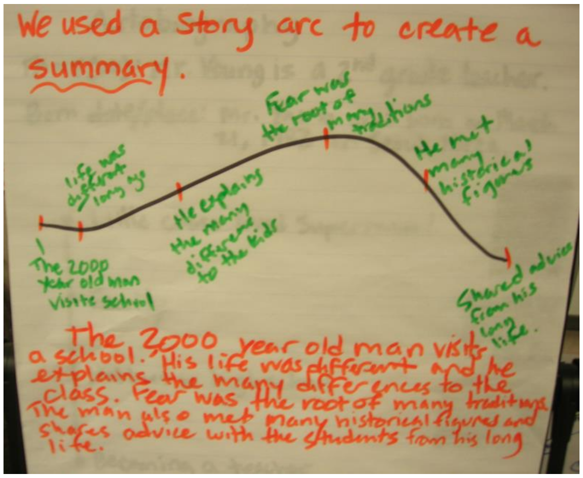

Figure 1. Summary

Connections – 2nd Comprehension Strategy. Students in this workstation chose a book, and wrote the following question at the top of their journal page: What does this remind me of? This helped students make personal connections to the book (Figure 2). The students did not differentiate between connections to the self, to other text, or to the world, but were previously instructed in such a way (Keene & Zimmerman, 1997). The three types of connections helped them think about all types of connections, but they were not required label them as such. At this station, a connection was a connection.

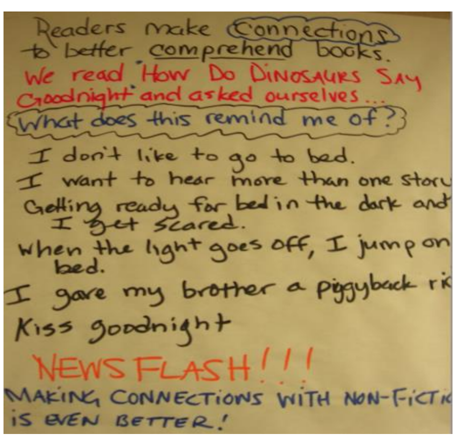

Figure 2. Connections

Sequence – 3rd Comprehension Strategy. Students chose a book, and completed a sequence of events while reading (Figure 3). The students drew six squares to start with, adding more if necessary, and drew pictures of the events (Naughton, 2008). After completing the book/chapter and the graphic, the students transformed the graphic representation into a paragraph using sentence starter such as first, next, then, afterwards, and finally.

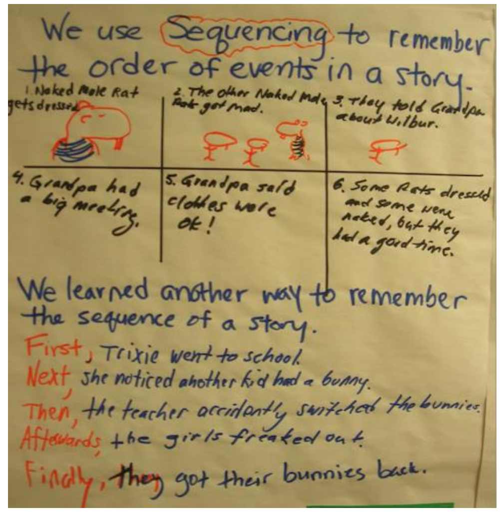

Figure 3. Sequence

Retell (fiction books only) – 4th Comprehension Strategy. Students chose a book and completed a graphic organizer while reading. The students drew a plus sign to form a graphic with four partitions labeled characters, setting, problem, and solution. Or, the students could simply write the story elements in sections (Figure 4). After completing the book and the graphic, students wrote the story using the recorded story elements. This is an important reading comprehension strategy according to the National Reading Panel Report (NICHHD, 2000).

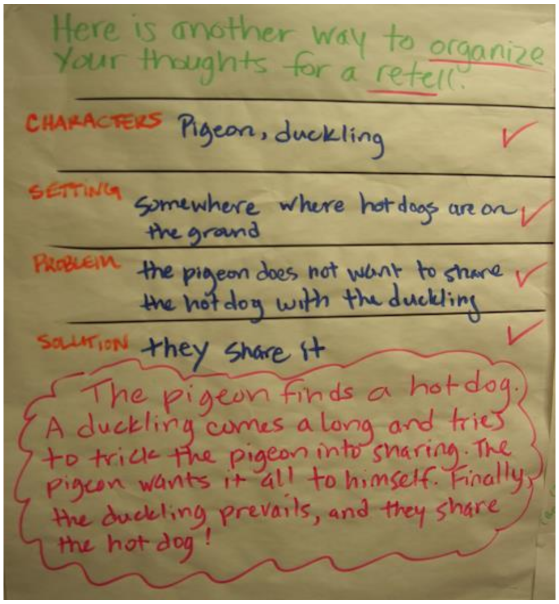

Figure 4. Retell

Questions – 5th Comprehension Strategy. I spent a great deal of time on instructing students how to ask good questions while reading and how it aids in reading comprehension (Short, Kane & Peeling, 2000). Essentially, students had to identify different levels of questions (higher-order, lower level) and determine where the answers could be found (in the book, in the brain, or in another resource). For this workstation, students wrote down their questions while they read, and tried to answer them after completing the book or chapter (Figure 5).

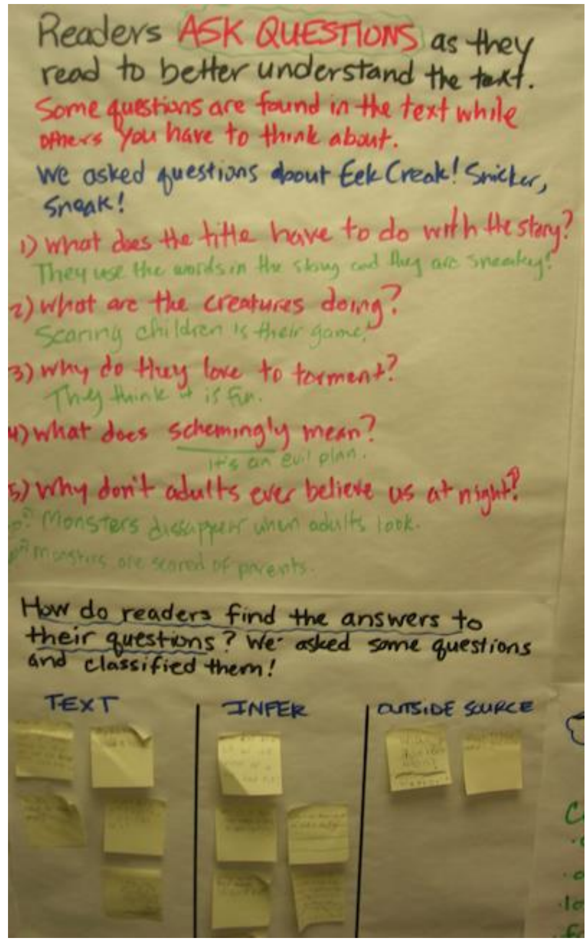

Figure 5. Questions

Predictions – 6th Comprehension Strategy. Making predictions helps students comprehend text (Harvey & Goudvis, 2007). Students in this workstation drew a chart with three columns. The students labeled the columns with prediction, confirm/reject, and text evidence. While the students were reading, they wrote down their predictions about the text. During or after the reading, the students either wrote a C to confirm or an R to reject their prediction. In addition, students were required to provide that text evidence that led them their conclusion.

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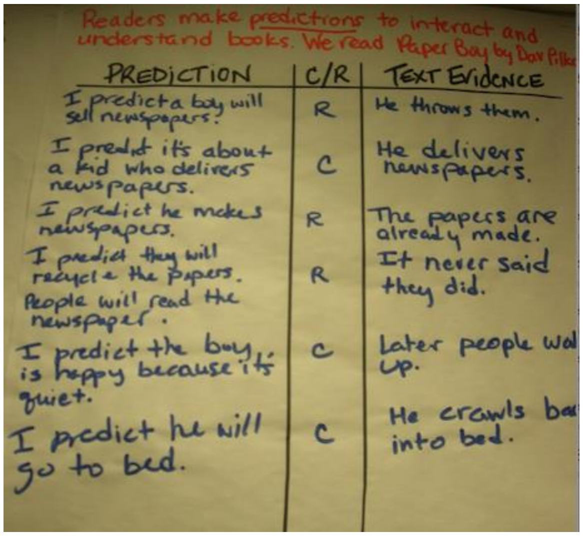

Figure 6. Predictions

Reader Response Stems – 7th Comprehension Strategy. Students chose reader response stems to complete before, during, or after their reading (Langer, 1994). A response stem is typically a sentence starter that helps students respond in a variety of different ways and at higher and more critical levels (see Figure 7 for examples). Students in this station wrote down the completed stems in their journals.

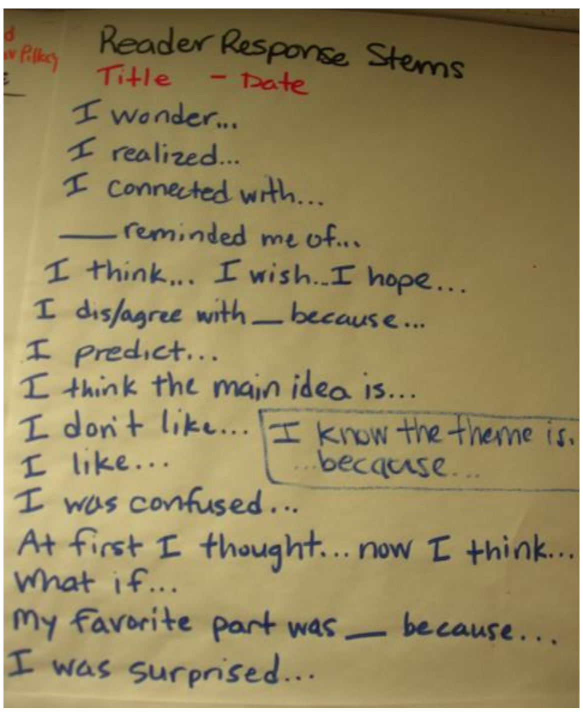

Figure 7. Reader Response Stems

Synthesis – 8th Comprehension Strategy. This station strategy required extensive mini-lessons and reteaching before students could use it well, as synthesizing is a difficult but important skill (Harvey & Goudvis, 2007). I instructed students to draw a large plus sign in their journals, and label each with “at first I am thinking…”, “now I am thinking…” another “now I am thinking…”, and “finally I know…” Essentially, students predicted the main idea before reading, and wrote it down in the first box, and thus completing the sentence, “At first I am thinking…” After the students began to read, they adjusted their notions of the main idea twice after acquiring new information while reading, and completed the next two boxes by finishing the “Now I am thinking…” statement. After completing the book or chapter, the students synthesized all the information to complete the final box (Figure 8).

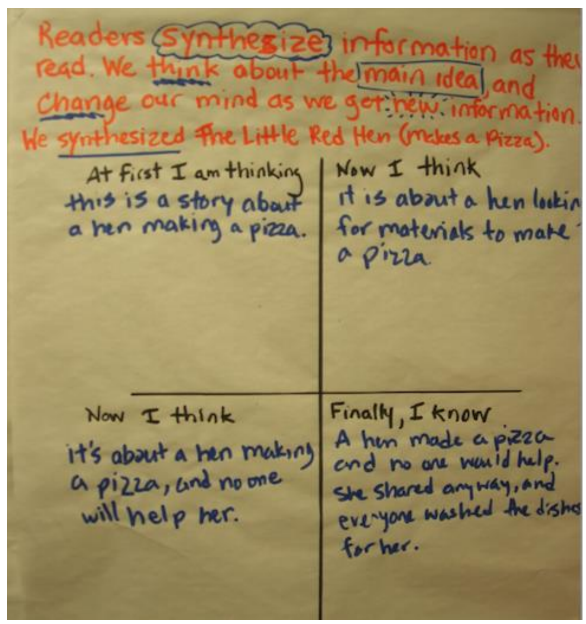

Figure 8. Synthesis

Theme – 9th Comprehension Strategy. The students were instructed to identify the theme of fictional books (Figure 9). While reading, students asked themselves, what did the characters learn? How did the characters

grow or change? How do I know? After the reading, students consulted a chart that displayed common themes (e.g. courage, individuality, honesty, kindness, facing fears, etc.…). Students were encouraged to identify their own themes as some believe that morals should not be pushed on children; they should discovered them on their own (Kilpatrick, 1992). For the product, the student completed the following statement, "I think the theme was ________ because…

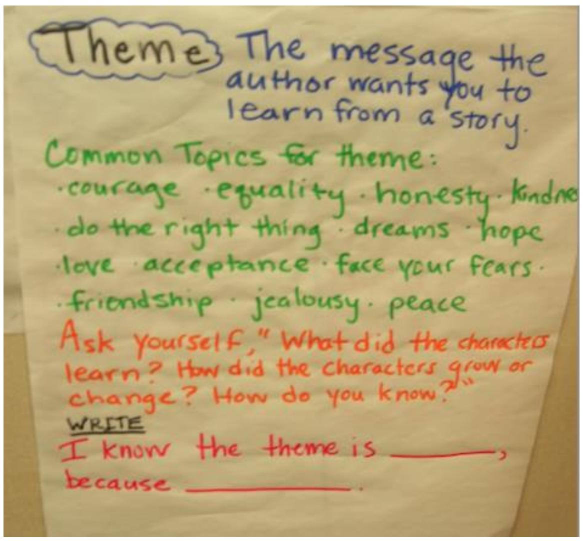

Figure 9. Theme

Expositions – 10th Comprehension Strategy. Students chose a nonfiction book and completed a student drawn graphic organizer in their journals (Figure 10). At the top of the page the students wrote down the topic, or main idea. Below the topic, students wrote their interpretation of the main idea. Next, students drew 3 boxes next to each other, and wrote down three important details about the main idea. Finally, students transformed the graphic into an exposition paragraph. The students began with a topic sentence, stated the main idea, and followed it with supporting details.

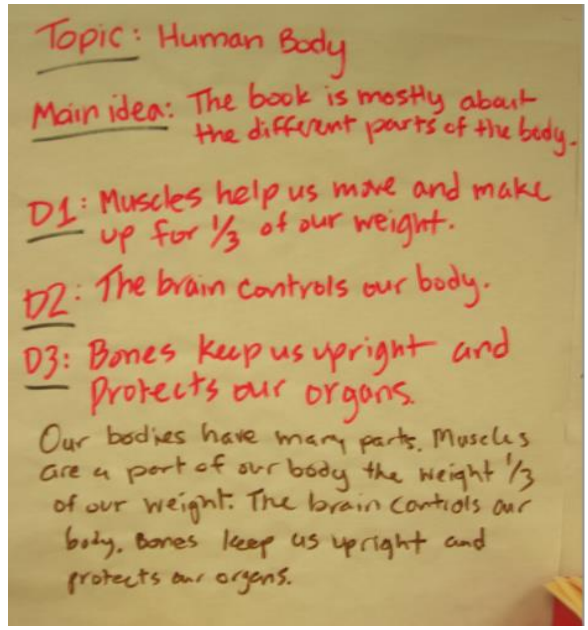

Figure 10. Expositions

Determining Importance – 11th Comprehension Strategy. In this workstation, the students drew a T-Chart, and labeled the top with "important" and "how do we know?" The students wrote down important details, events, or facts in a story and explained why they believed them to be important (Figure 11). This is an important strategy for students to master because it helps students consider the main ideas and the author's intended message (Dole, Duffy, Roehler, & Pearson, 1991).

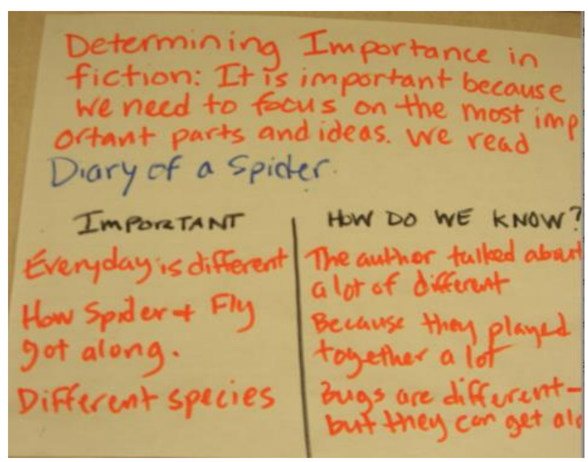

Figure 11. Determining Importance

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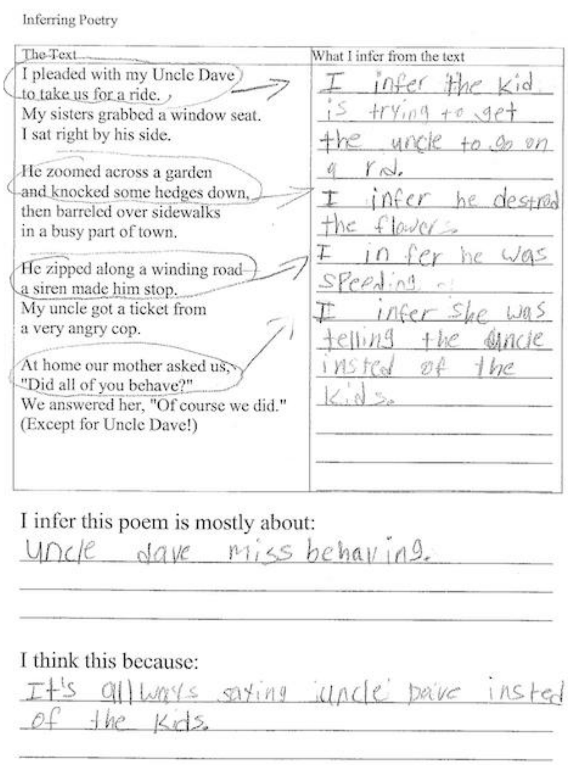
Inferring Poetry – 12th Comprehension Strategy. This is one of the two workstations that required a paper other than the students' journals. This station followed the method described by Miller (2002) for inferring poetry. The teacher constructed a T-Chart. On the first side, the teacher typed a poem. The second side only contained lines. Students were instructed to read a stanza and stop and think. Students would then write their inferences on the empty lines and circle keywords or phrases that informed their thoughts. Finally, below the T-Chart students completed the sentence "I infer this poem is about…"


Inferring Poetry

The Text	What I infer from the text
I pleaded with my Uncle Dave to take us for a ride. My sisters grabbed a window seat. I sat right by his side.	I infer the kid is trying to get the uncle to go on a rid.
He zoomed across a garden and knocked some hedges down, then barreled over sidewalks in a busy part of town.	I infer he destrod the flowers.
He zipped along a winding road- a siren made him stop. My uncle got a ticket from a very angry cop.	I in fer he was speeding.
At home our mother asked us, "Did all of you behave?" We answered her, "Of course we did." (Except for Uncle Dave!)	I infer she was telling the uncle insted of the kids.

I infer this poem is mostly about:
uncle dave miss behaving.

I think this because:
It's allways saying uncle dave insted of the kids.

Figure 12. Inferring Poetry

Nonfiction Text Features – 13th Comprehension Strategy. Students drew a three column chart (Figure 13) in their journals labeled with "text feature," "page number," and "what I learned." After choosing a nonfiction book, the students recorded text features from the text such as charts, diagrams, timelines, headings, and captions. The students wrote down the page number, and then described how what they learned from the text features, or how it enhanced what they were reading (Risko & Walker-Dalhouse, 2011).

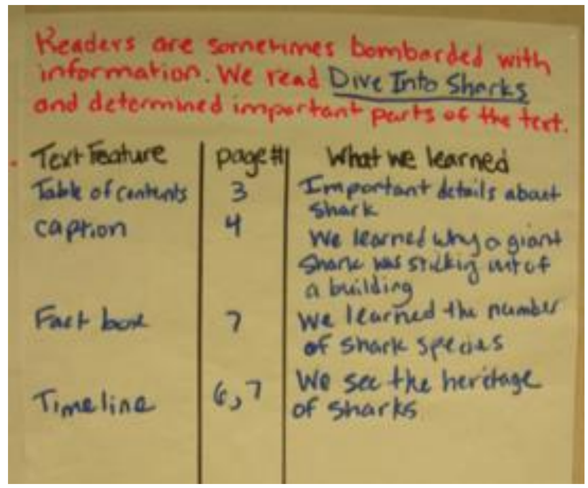


Figure 13. Text Features

Drama – 14th Comprehension Strategy. The teacher printed Readers Theater scripts. The students worked in their group to write down voice directions, such as [*loudly*] or [*angrily*] next to each part. This process required students to analyze the meaning of each line and the author's intended voice for each character or narrator, demonstrating prosody's link to comprehension (Young & Rasinski, 2009). After workstations were completed, the group performed for the class (see https://www.youtube.com/watch?v=7Zxr-yiN8M0 for the minilesson).

Scripting - 15th Comprehension Strategy. Students transformed a mentor text into a Readers Theater. Engaging in this complex process required students to think deeply about the text. As the students transformed the text into a script, they had to carefully preserve the author's intended meaning (for a full description of the strategy, see Young & Rasinski, 2011). The students performed

the script at the end of the comprehension workstations.

Assessment

I had been using comprehension workstations for a few years, and I felt that the stations helped students comprehend text. During the 2012-2013 school year I decided to look specifically at my students' comprehension scores. As a part of the district assessment requirements all students were required to engage in monthly computer reading assessments. Imagination Station (referred to as Istation) is a computer adaptive test that renders an overall reading score based on several subtests. The early reading subtests included Phonemic Awareness, Letter Knowledge, Alphabetic Decoding, Vocabulary, Spelling, and Comprehension, but for the purpose of this article, I will only include the comprehension scores.

The reading comprehension subtest assessed students in two ways. First, students were given a sentence to read accompanied by four pictures. After reading the sentence, the student chose the picture that best illustrated the meaning. The subtest also utilized a cloze passage, where one word was missing from a sentence, and the student selected the semantically and syntactically appropriate word from four choices. Although some question its usage, the cloze passage is generally considered a reliable means for measuring reading comprehension (Bachman, 1985, 1982; Davies, 1979; Greene, 2001; Jonz & Oller, 1994; Oller & Jonz, 1994; Sasaki, 2000).

The Results

Although I cannot compare these results to previous years or a control group as you might find in a research article, I thought it was important to ensure that students were indeed increasing their comprehension. I used the pre- and post-tests of the comprehension Istation subtest to determine if, indeed, my students were making progress. The descriptive statistics are summarized in Table 1.

Table 1. Second Grade Descriptive Statistics of Comprehension Scores (n = 18)

Item	Min	Max	Mean (%ile)	SD
Pre-Test	22	99	64	24
Post-Test	22	99	81	19

It is expected that students will make growth as readers each year. Students that maintain their projected percentile throughout the year make one year's growth according to the normative data (National Center on Intensive Intervention, 2008). However, in order to increase in percentile, a student must exceed one year's growth. As the table shows, the students' comprehension score percentile increased from pre-test to post-test and the standard deviation decreased. In addition, the data reveal that overall the students in second grade exceeded the expected growth. According to the data, the class average percentile in reading comprehension increased by 17. Relatively speaking, the increase is notable. In fact, 89% of the class demonstrated an increase in reading comprehension.

The following histograms clearly show the distribution of students' percentile scores and the normal distribution curve. There is a positive shift of both the scores and the normal distribution curve from pretest (Figure 14) to posttest (Figure 15). This was good news for my students and confirmed that my focus on comprehension was helpful.

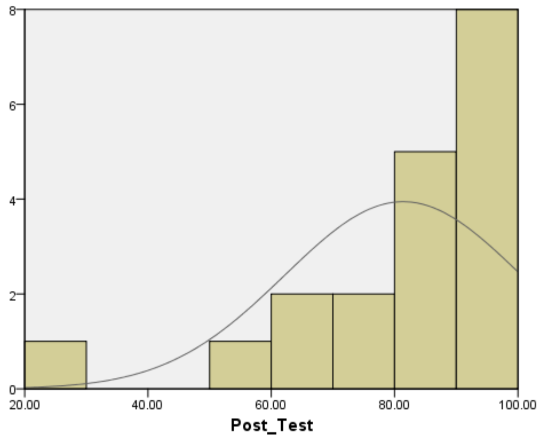


Figure 14. Histogram with Normal Distribution of 2nd Grade Pretest Comprehension Percentiles (*n* = 18)

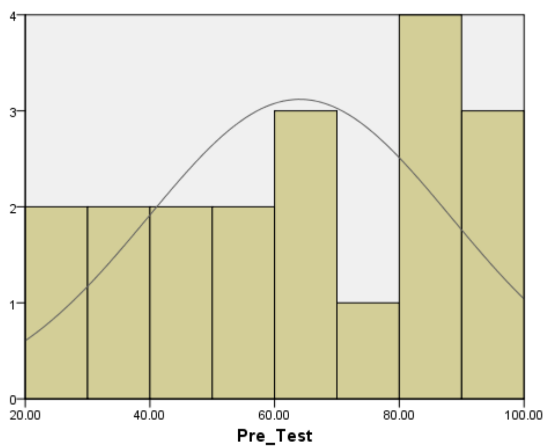


Figure 15. Histogram with Normal Distruction of 2nd Grade Posttest Comprehension Percentiles (n= 18)k

Conclusion

Although research advocates for ample independent practice for increased comprehension, reading programs do not necessarily make time and space for it (Dewitz, Jones, & Leahy, 2007). Teachers are professional decision makers and adept problem solvers. Because I believe that there is no such thing as a published comprehensive reading program, I decided to provide time for students to repeatedly practice reading comprehension strategies throughout the school year using workstations. These workstations were not found in my district's curriculum or in the reading basal series, but were the result of my desire to leverage research-based strategies to provide extended practice using comprehension strategies we focused on in whole class lessons. The comprehension workstations appear to have supported the development of and increase in my students' reading comprehension. I recommend that teachers reexamine their "center" time, and consider implementing strategy-based comprehension workstations.

Chase Young, former second grade teacher, is now an assistant professor at Texas A&M University-Corpus Christi. You may contact him at Chase.Young@tamucc.edu.

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